



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/560,819	04/28/2000	Hiroshi Oagawa	1982-0149P	5103
7590 08/11/2004 Birch Stewart Kolasch & Birch LLP PO Box 747 Falls Church, VA 22040-0747			EXAMINER ROY, SIKHA	
			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



**UNITED STATES DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office**

Address : COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

*Am*

095608/9

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
---------------------------------	-------------	---	---------------------

EXAMINER
----------

ART UNIT	PAPER
----------	-------

0704

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

The Supplemental Non-Final Office Action is attached herewith.

Supplemental  
Office Action Summary

Application No.

09/560,819

Applicant(s)

OAGAWA, HIROSHI

Examiner

Sikha Roy

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10,12,14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-8,10 and 12 is/are allowed.
- 6) ☒ Claim(s) 14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 5, 2004 has been entered.

Cancellation of claims 2,9,11 and 13 has been entered. New claims 14 and 15 have been entered.

This Office Action is supplemental to the Office Action mailed May 18, 2004 which was defective as pointed out by the Applicant on June 4, 2004 because the new claim 15 was not examined.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,979,200 to Umemoto et al. and further in view of U.S. Patent 4,574,102 to Arakawa et al.

Regarding claim 14 Umemoto discloses (column 1 lines 58-68, column 2 lines 1-5) a radiation image conversion panel (radiographic intensifying screen) comprising phosphor layers containing stimuable phosphors (X-ray phosphors) and binder resin where the binder resin is unevenly distributed in the phosphor layer so that the amount of the binder resin to the stimuable phosphor in the uppermost layer (in the vicinity of the protective layer) is greater than that of the binder to the phosphor in the remainder of the phosphor layers. Umemoto further discloses (column 3 lines 25-30) that in order to obtain adequate adhesive strength between the uppermost phosphor layer and the protective layer the proportion of binder resin to stimuable phosphor is preferably at least 4% by weight of the entire phosphor layers which is certainly more than 0.5 wt.% as claimed.

Claim 14 differs from Umemoto in that Umemoto does not exemplify the thickness of the uppermost layer is decreased relative to the layer beneath the uppermost layer.

Arakawa in analogous art of radiation image panel discloses (column 3 lines 31-60, Fig. 1) a radiation image storage panel comprising a lower phosphor layer with mixing ratio of binder to stimuable phosphor smaller than the mixing ratio of the same in the adjacent upper layer. Arakawa discloses that the bonding strength between the upper phosphor layer and the protective film is prominently enhanced by varying the mixing ratio of the binder to the stimuable phosphor increased in the region of  $1/5$  thickness (upper phosphor layer) and the mixing ratio is decreased to a minimum within the region of depth from  $1/5$  to  $4/5$  which can be considered as the lower phosphor

Art Unit: 2879

layer, the depth being expressed in terms of relative distance from the protective film-side surface. Hence the upper layer has a decreased thickness of  $1/5$  relative to thickness of  $3/5$  of the lower phosphor layer. Furthermore Arakawa discloses (column 2 lines 34-39) that the radiation image storage panel provides an image of decreased sharpness as the mixing ratio of the binder to the stimuable phosphor in the phosphor layer increases. Hence decreased thickness of the upper phosphor layer having high mixing ratio of the binder to stimuable phosphor relative to the adjacent lower layer results in increased sharpness of the image.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the thickness of the uppermost phosphor layer having high mixing ratio of binder to stimuable phosphor decreased relative to the layer beneath of the radiation image conversion panel of Umemoto et al. as taught by Arakawa et al. for providing increased sharpness of the image.

Claim 15 differs from Umemoto and Arakawa et al. in the Umemoto and Arakawa do not disclose the limitation of "radiation image conversion panel produced by thermo-compressing two sheets which have been separately coated and dried". The Examiner notes that this limitation that is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113). Therefore, it is the position of the examiner that it would have been obvious to one of

Art Unit: 2879

ordinary skill in the art that the radiation image conversion panel disclosed by Umemoto and Arakawa is at least a fully functional equivalent to the Applicant's claimed invention as evidenced by all of the Applicant's claimed structural limitations.

### ***Allowable Subject Matter***

Claims 1,3-8,10,12 are allowed over the prior art of records.

The following is an examiner's statement of reasons for allowance:

Regarding claim 1 the prior art of record fails to teach or suggest a radiation conversion panel having all the limitations as claimed in claim 1, particularly the limitation comprising the thickness of the uppermost layer increased relative to a layer beneath the uppermost layer.

Claims 3-8,10 and 12 are allowable for the reasons given in claim 1 because of their dependency status from claim 1.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Art Unit: 2879

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.R.

Sikha Roy  
Patent Examiner  
Art Unit 2879

Muz 7/26/04  
Mariceli Santiago  
AU 2879